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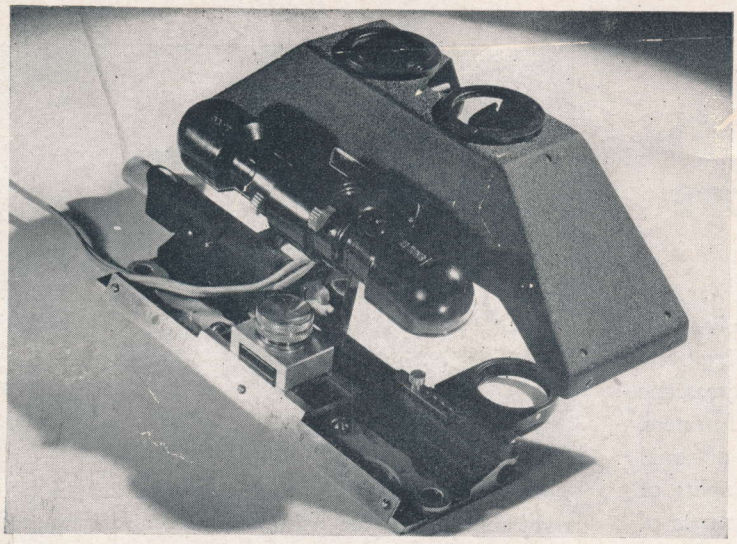

FAIRCHILD STEREO-COMPARAGRAPH

DIVISION 7

JAN 24 1947

U. S. PATENT OFFICE

This is a simple stereoscopic plotting instrument for measuring elevations and for compiling vertical data such as form lines, profiles, slopes, etc., as well as planimetric details directly from overlapping vertical aerial photographs. When desired it may also be used as a simple stereoscope. It is one of the most popular instruments of its kind because of its low cost, portability, simplicity and ease of operation, having a universal appeal to a large group of users who have neither the need nor the facilities for expensive and complex stereoscopic plotting equipment. While not claimed to be a precision plotting instrument, the stereo-comparagraph does provide a relatively high degree of accuracy depending upon the skill and experience of the individual operator.

The stereo-comparagraph is designed for attaching to any standard drafting arm and consists of a special mirror stereoscope provided with a system of adjustable "floating marks" and a micrometer measuring system whereby differences in elevation between various points on the photographs can be determined by measuring their parallactic displacements. Except for the optical elements it is constructed entirely of metal and all parts are manufactured to highest precision standards. The optical system consists of a mirror stereoscope with a pair of lenses having two-power magnification. Mirrors are adjustable for angular position, otherwise no adjustment of the optical system is necessary.

A small double lighting fixture with adjustable reflectors is provided for illuminating the photographs being viewed. Also provided are two interchangeable pencil holders, one of which contains a pricker for marking control points, the other being for leads of different degrees of hardness. The pencil arm is provided with an extension which increases its length from 12 to 18 inches to facilitate work on large size maps.

The entire unit may be readily dismantled into its several small components and fitted into a compact carrying case.

Fairchild CAMERA AND INSTRUMENT CORPORATION

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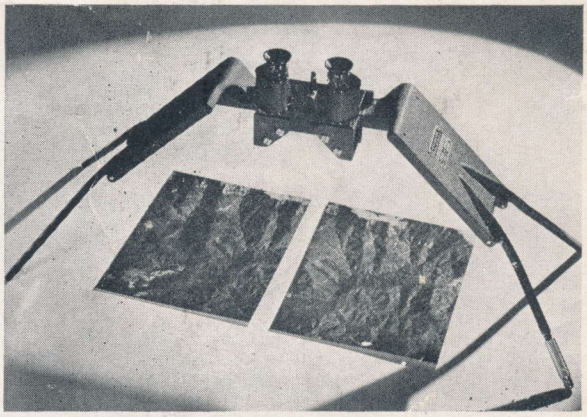
TYPE F-71 MAGNIFYING MIRROR STEREOSCOPE



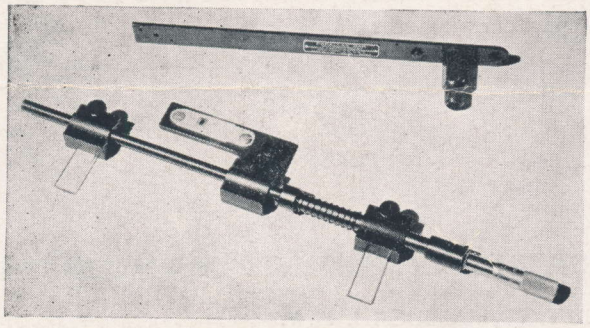
Stereoscopes have wide applications in both war and peacetime interpretation of aerial photographs. Providing a three-dimensional effect when viewing overlapping pairs of aerial photographs, the stereoscope is a valuable aid to engineers, geologists, foresters, military photo-interpreters, and other users of aerial photographs in determining the relative heights of terrain features, buildings, trees, and structures of various kinds. They aid in determining the locations of railroad, highway, pipeline and transmission line routes, watershed areas, dam sites, mineral deposits, etc.

The Fairchild F-71 Magnifying Mirror Stereoscope is a high quality, sturdily constructed unit designed for field or laboratory use. Its optical system is carefully designed and accurately adjusted to reduce eye fatigue to a minimum. The optical system consists of two high grade first surface evaporated rhodium-coated mirrors free from double images, two right-angle 45-degree prisms silvered and lacquered on the hypotenuse surfaces and two high-quality lenses of approximately 11¼ inch focal length. In addition, a pair of 4-power binoculars are available for use when close examination and detailed study of small areas of photographs are desired.

A single light weight casting which supports the optical system is, in turn, supported by four folding legs. The entire unit can be set up ready for use in a matter of seconds and no adjustments of any kind are necessary.

TYPE F-163 PARALLAX BAR

While the viewing stereoscope is invaluable as an aid to photo-interpretation, its value may be further enhanced by the use of a simple inexpensive device known as the parallax bar. Whereas the stereoscope creates the illusion of a third dimension when viewing overlapping pairs of photographs, the parallax bar makes it possible to measure this third dimension in terms of depth or elevation. It is extremely easy to use, and with a little practice the operator can readily apply it in plotting both planimetric and topographic detail from photographs onto maps and charts in addition to using it for measuring spot elevations.



The unit consists of a metal bar supporting a micrometer, two adjustable "floating mark" assemblies and a drawing attachment, the micrometer and floating mark assemblies comprising a simple parallax measuring system which is the heart of the instrument. All parts are sturdily constructed and carefully machined to assure accurate functioning. Although designed particularly for use with the F-71 Stereoscope, it can be adapted for use with any stereoscope having a stereoscopic base of approximately 6 to 12 inches in length. If desired the parallax bar may be attached to any standard drafting arm for drawing form lines.